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ABSTRACT

This learning module on designing student materials for self-pacing is one of nine developed for use in training administrators, teachers, and prospective teachers in the utilization of Vocational-Technical Education Consortium of States (V-TECS) catalogs of performance objectives, criteria-referenced measures, and performance guides. Information with examples is presented on the following topics related to development of student materials: format, title, introduction, directions, obectives, learning activities, instructional content, student self-check, check-out activities, and instructor's final checklist. Examples of module behavioral objectives are these: identify the components of a typical module; the guidelines for writing a module; the function of the self-check; the types of self-checks; the types of instructional content; appropriate check activities; appropriate items to be included in the instructor's final checklist; and guidelines for using illustrations. A glossary of terms, a glossary self check, and three self checks on material presented in the module are provided. (An instructor's handbook--CE 017 440--for use with all the modules, contains the checkout activity, a multiple choice test keyed to the behavioral objectives stated at the beginning of the module. The modules are designed for use with individuals or with groups.) (JH)

Implementing Performance-Based Vocational Education
Utilizing V-TECS Catalogs

MODULE 7

DESIGNING STUDENT MATERIALS FOR SELF-PACING

State Department of Education
Office of Vocational Education
Columbia, South Carolina 29201

In cooperation with

Vocational Education Media Center
Clemson University
Clemson, South Carolina 29631

1978

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INTRODUCTION

Self-pacing requires self-directional, self-instructional materials. As mentioned previously this material is usually packaged in the form of modules and learning activity packages. These learning resources generally follow a common format mentioned briefly in Module 5. It is important that this material be written such that it will appeal to interest, needs and learning styles of students. In this module you will learn to prepare a typical self-directional, self-instructional module.

DIRECTIONS

Modules 5 & 6 should be completed before beginning work on this module.

Read the OBJECTIVE section. If you think you can accomplish this objective now, turn to the CHECK-OUT ACTIVITY, page 32, and follow the instructions.

If you feel you are not able to accomplish this objective now, look at the LEARNING ACTIVITIES, this page . Begin the learning activities and as soon as you feel you are ready, turn to the CHECK-OUT ACTIVITY, page 32, and follow the instructions.

OBJECTIVES

Given instructional materials developed for this module, the participant will be able with 100 percent accuracy, to identify on a multiple choice test:

1. the components of a typical module
2. guidelines for writing
   a. modules in general
   b. the introduction
   c. the directions
   d. the objectives
   e. the learning activities
3. functions of the self-check
4. types of self-checks
5. types of instructional content
6. appropriate check-out activities
7. appropriate items to be included in the Instructor's Final Check
8. guidelines for using illustrations

LEARNING ACTIVITIES

1. READ the Glossary of Terms.
2. CHECK YOUR KNOWLEDGE by completing Self-Check I – Glossary of Terms for Module Seven.
3. READ Section I – Format.

   (or)_____
4. READ Section II – Title

   (or)_____
5. CHECK YOUR KNOWLEDGE by taking the student Self-Check I - Selecting A Title.
6. READ Section III – Introduction.

   (or)_____
7. READ Section IV – Directions.

   (or)_____
8. READ Section V – Objectives.

   (or)_____
9. READ Section VI – Learning Activities.

   (or)_____
10. CHECK YOUR KNOWLEDGE by performing Student Self-Check II – Selecting Learning Activities.
11. READ Section VII – Instructional Content.

    (or)_____
12. READ Section VIII – Student Self-Check.

    (or)_____

13. READ Section IX – Check-Out Activities.

(or)_____

14. READ Section X – Instructor's Final Checklist.

(or)_____

15. CHECK YOUR KNOWLEDGE by performing the Student Self-Check IV – Preparing the Instructor's Final Checklist.

16. Turn to the CHECK-OUT ACTIVITY, p. **32**, and follow the instructions.

GLOSSARY OF TERMS – MODULE 7

Check-out activity – The performance a student must accomplish to prove mastery. It is often the performance objective when the actual accomplishment of such objectives are feasible. At times a special criterion-referenced measure is used when the performance of the actual objective is not feasible.

Instructor's final checklist – a listing of the major steps involved in the performance of a task. It sometimes serves as the performance standard. It can be used as a diagnostic instrument to determine the need for additional knowledge or training.

Learning Activities – selected and planned activities or experiences which are made available to students to help them master an objective or a set of objectives. Such activities may include the full range of methodology and media used to enhance or serve as the delivery system for the chosen educational experiences.

Learning Activity Package – self-directional, self-instructional materials which contain provisions for the student to exempt or test-out on a specified objective or objectives. The student is usually directed to a variety of learning activities and to a variety of learning resources to obtain the information needed to accomplish the specified objectives. It does not usually contain, within its covers, instructional content, but instead refers the student to such content.

Module – self-directional, self-instructional materials which contain provisions for the student to exempt and test-out on a specified learning objective or objectives. It contains almost all or all information necessary for the student to accomplish the objectives specified, i.e., it is "content complete."

Prerequisites – those competencies a student is expected to demonstrate before he/she begins to work on a particular instructional module.

Self-check – a test, usually cognitive, designed to provide positive reinforcement and increase student confidence.

SELF–CHECK I

Directions: Match the following terms and definitions.

TERMS

a. Check-out activity
b. Instructor's final checklist
c. Learning activity
d. Learning activity package
e. Module
f. Prerequisites
g. Self-check

DEFINITIONS

1. — a test, usually cognitive, designed to provide positive reinforcement and increase student confidence.

2. — the performance a student must accomplish to prove mastery. It is often the performance objective when the actual accomplishment of such objectives are feasible. At times a special criterion-referenced measure is used when the performance of the actual objective is not feasible.

3. — self-directional, self-instructional materials which contain provisions for the student to exempt or test-out on a specified objective or objectives. The student is usually directed to a variety of learning activities and to a variety of learning resources to obtain the information needed to accomplish the specified objectives. It does not usually contain, within it's covers, instructional content, but instead refers the student to such content.

4. — those competencies a student is expected to demonstrate before he/she begins to work on a particular instructional module.

5. — a listing of the major steps involved in the performance of a task. It sometimes serves as the performance standard. It can be used as a diagnostic instrument to determine the need for additional knowledge or training.

6. — self-directional, self-instructional materials which contain provisions for the student to exempt and test-out on a specified learning objective or objectives. It contains almost all or all information necessary for the student to accomplish the objectives specified, i.e., it is "content complete."

7. — selected and planned activities or experiences which are made available to students to help them master an objective or a set of objectives. Such activities may include the full range of methodology and media used to enhance or serve as the delivery system for the chosen educational experiences.

SELF– CHECK I

Answer Key

1. g, 2. a, 3. d, 4. f, 5. b, 6. e, 7. c

SECTION I

FORMAT

The purpose of developing self-directional, self-instructional student materials is to facilitate individual study which in turn facilitates self-paced instruction. Such modules usually contain the following elements:

Title
Introduction
Directions
Objectives
Learning Activities
Instructional Content
Student Self-Checks
Check-Out Activity
Instuctor's Final Checklist

Modules are written to be content complete or self-contained, i.e., all instructional content needed to achieve the performance objective are contained within the module. Learning Activity Packages may be partially self-contained, but refer the student to other learning resources, e.g., text books, technical manuals, A-V programs, or modules.

These modules or learning activity packages must be as nearly self-directional and self-instructional as possible. Every effort must be made to write clearly and with enough detail that students can achieve the objective with little or no help from the instructor.

The following guidelines are suggested by Fardig:[1]

- When writing to students, use the personal term you, not one.
- Avoid educational and technical jargon. Define technical terms when they are introduced.
- Use a minimum of punctuation. Use capitals and underlining sparingly. . . save them for special occasions.
- Use the active rather than the passive voice. Say, *Put the lid back on the jar right away;* not *The lid needs to be placed back on the jar immediately after the contents are poured out.*
- Modules are intended to be read and used by students. Write to the student and for the student. Say it simply.
- Edit your own work before you submit it for typing.
- A reference to a book should list the following: author's last name, title of the book (underlined), edition (if not the first), and pages to be read. Do not include publishing information:

  e.g., Crouse, Automotive Mechanics, 5th edition, pp. 215–222.

- If students are to read a magazine article, furnish them with the following information: author's last name (if known), title of article (in quotation marks), name of magazine (underlined), date of issue (in parentheses), pages to be read.

  e.g., Wooten, "A Guide to Furnishings Conservation," Forecast, (March, 1975), pp. 26–28.

- When you refer the student to another module in the program, give module number and title in quotes:

  e.g., DA-51, "Making a Bite-Wing Radiograph."

[1] Glen E. Fardig, *Handbook for Development of Vocational Education Modules,* (Lexington, Kentucky: Curriculum Development Center for Kentucky, 1975) p. 10.

SECTION II

TITLE

The title should clearly and simply communicate the content of the module in as few words as possible. Usually it consists of the task statement or an abbreviated task statement.

The following guidelines may be useful:[2]

- Use the task statement or an abbreviated task statement as the title
- State the title in the active form
- Use the present participle (ing form of the verb), e.g., changing spark plugs, not change spark plugs.
- Keep the title short
- Avoid the use of puns
- Avoid the use of unnecessary words. Such words, when used within the context of the subject for which modules are being prepared, need not be repeated, e.g., cleaning spark plugs — rather than cleaning tractor spark plugs.
- Use the term student for the learner of whatever age group. Do not use "pupil" or "trainee."
- Use the term instructor rather than "teacher."
- Videotape is one word. Audiotape is one word.
- Never use sex biased terms.

ILLUSTRATIONS

Illustrations can be very effective in facilitating student learning. This is especially true when complex operations or procedures are to be learned. Illustrations can communicate operations which would be almost impossible to describe in writing. Since students using modules/learning activity packages in a self-paced program will be working largely without the aid of the instructor, it may be very important that every effort be made to provide materials which are easily understood.

For the remainder of this module the term Module will be used exclusively; however the student should substitute the term Learning Activity Package as appropriate.

[2] Ibid. Adapted from Handbook for Development of Vocational Education Modules p.11.

SELF–CHECK II – Selecting a Title

Using the following performance objectives taken from V–TECS catalogs, select a module title. Compare your titles with those provided by the self-check answer key.

Floriculture Workers

PERFORMANCE OBJECTIVES:

1. Given an automatic irrigation system that is operating well on a specified cycle, reset the time clocks so that the valves will open and close properly for implementing a prescribed new schedule. When the control clocks have been reset and adjusted, the actual cycling must not deviate from the prescrib l or desired cycling schedule by more than four minutes.

2. Given a designated land area or greenhouse plants on which a chemical solution is to be applied, the solution, a suitable sprayer and the recommended clothing or other safety equipment, apply the chemical. All necessary safety precautions should be followed and the solution must be applied uniformly at the recommended rate, covering the plants uniformly and thoroughly.

3. Given designated plants requiring hand irrigation, a reliable source of water, a garden hose with an appropriate water breaker or a sprinkling can, hand irrigate the plants. All plants are to receive the required amount of water and none are to be damaged either through receiving too much water or by washing out the medium if applied too fast.

SELF-CHECK II

Answer Key

1. Resetting time clocks
2. Applying chemical solutions
3. Hand irrigating

SECTION III

INTRODUCTION

The introduction builds the case for "what" is to be done. It answers the question "Why am I learning this?" and integrates what has been learned with what is to be learned. It also provides purpose and motivation for learning. Finally, the introduction is built around the performance objective or task and describes briefly what will be learned. The following guidelines for writing an introduction are suggested by Fardig:[3]

The introduction should be short, concise, and succinct. It must be no longer than 75 to 100 words.

Use short sentences, with no difficult or unfamiliar terms.

Use the second person form (e.g., "You will be learning how to thread the sewing machine.")

If an unusual technical term appears in the module title (e.g., "Preparing the Amalgam"), define the term very briefly in the introduction.

Resist general, trite statements of encouragement, such as "Good luck," or "You can do it!"

EXAMPLES

EXAMPLES OF INTRODUCTIONS:*

EXAMPLES

TRACTOR MECHANICS

The following introductions were taken from modules prepared by the Kentucky Department of Education.

TASK: Servicing a Hydraulic Pump

The hydraulic pump, the most important part of the hydraulic system, converts the mechanical force of the engine into hydraulic fluid power by creating a flow of fluid. The fluid moves through the entire system, causing it to operate. When defects occur in the pump, it is vitally important that repairs and service be made correctly to insure an efficient, reliable system. In this module you will learn to service and repair a designated hydraulic pump.

TASK: Adjusting Valves

After the mechanic has serviced the valves and replaced the rocker arm assembly, clearance between the valve stem and tappets must be adjusted. The clearance must be properly adjusted to allow for the expansion of the valve stems due to extremely high temperature in the engine. If the clearance is not sufficient, the exhaust valves may be burnt due to the escaping gases. Improper clearance of the intake valves may cause the engine to backfire and lose power. In this module you will learn how to properly adjust the valves.

*Courtesy of Bureau of Vocational Education, State Department of Education and Department of Vocational Education, College of Education, University of Kentucky.

[3] Ibid., *Handbook for Development of Vocational Education Modules*, p. 15.

SECTION IV

DIRECTIONS

The directions have three major functions:[4]

1. to direct the student to the final test (check-out activity or criterion-referenced measure) if he/she feels competent and ready to perform the task without further instruction.
2. to make the student aware of prerequisite modules. Only those modules immediately and directly essential to the successful completion of the present module should be listed.
3. to advise the student how to begin the module.

EXAMPLES

EXAMPLES OF DIRECTIONS:*

EXAMPLES

CHILD CARE –

DIRECTIONS:

Before you start to work on this module, be sure you have completed Module CW-8, "Planning Dramatic Play Activities." Read the objectives. If you feel you are already able to perform these tasks, read the Check-Out Activities. Then either arrange with your instructor to complete the Check-Out Activities,

or

If you need to complete the learning activities in order to be able to do the task, go through the Learning Activities in the order given.

DIRECTIONS:

Read the objective. If you feel you are already able to perform these tasks, read the Check-Out Activities. Then arrange with your instructor to complete the Check-Out Activities,

or

If you need to complete the learning activities in order to be able to do the task, go through the Learning Activities in the order given.

TRACTOR MECHANICS –

DIRECTIONS:

Before you start to work on this module, be sure you have completed Module TM–41, "Testing the Hydraulic System," and Module TM–42, "Maintaining Fluid in the Hydraulic System."

If you have completed these modules read the objective below. If you think that are already able to perform the task, read the Check-Out Activity on the back cover. Then either arrange with your instructor about doing the Check-Out Activity,

or

If you need to complete learning activities in order to be able to do the task, turn to p. 2 and go through the Learning Activities in the order given.

*Courtesy of Bureau of Vocational Education, State Department of Education and Dep ment of Vocational Education, College of Education, University of Kentucky.

[4] Ibid., *Handbook for Development of Vocational Education Modules*, p. 19.

SECTION V

OBJECTIVES

Modules may contain only one performance objective or several. Generally speaking, experience has shown that it is best to keep the number of objectives within a single module as low as possible, preferably one. Students like to finish the module within the class period. Modules containing several objectives tend to become complex. Also, including several objectives in one module sometimes requires the student to have access to several items of equipment at once.

Performance objectives and criterion-referenced measures are very similar. Sometimes they may be used interchangeably. The performance objective shown in the example below can also be used as a criterion-referenced measure. This is because the objective is written in such explicit detail that a student knows not only what the objective is but also how he/she will be tested and how well he/she must perform.

Sometimes, however, the performance objective and criterion-referenced measure will be stated differently. This is because it may not always be possible for a student to perform the actual tasks. It may be necessary as a practical matter to use a simulation. In such cases the objective may not change, but the learning activities and testing may be by simulation. For example, the objective may involve painting a tractor, but it may not be feasible to provide each student in a class of 15 students with a tractor. Some sort of simulation activity might be substituted which would allow students to develop the skills required without actually painting real tractors. In such cases the criterion-referenced measure would be written differently from the performance objective.

Since students should be made aware of the test to be used to measure their performance prior to beginning the module the criterion-referenced measure should be placed at the front of the module. Modules developed in the future will reflect this change. In cases where the performance objective can be used as the criterion-referenced measure, there will be no separate statement of the criterion-referenced measure. When performance of the objective is not feasible and a simulation must be used, or if the performance objective does not specify in sufficient detail the conditions for testing, the criterion-referenced measure will be stated separately.

In some cases the performance objectives will not describe in detail the performance required but will refer to the instructor's checklist for such standards. In such cases a separate statement of the criterion-referenced measure is not needed. See example from Child Care. Note the reference to the Checklist for standards.

EXAMPLES

EXAMPLES OF OBJECTIVES :

CHILD CARE –

OBJECTIVE:

Given three groups of children at separate times and an outdoor play area, organize and guide one appropriate outdoor play activity for each group. Each activity must be organized and guided in accordance with the instructor's checklist, and each applicable item on the checklist must be fully accomplished.

EXAMPLES

TRACTOR MECHANICS –

OBJECTIVES:

1. Given a complete mechanic's tool set, the manufacturer's service manual, micrometers, plastigage, and a soft-faced hammer, install rod bearings on the designated tractor. The rod bearings must be properly seated, all bearings must be torqued and clearance checked as specified by the service manual.

2. Given a manufacturer's service manual, micrometers, plastigage, and a soft-faced hammer, install connecting rod caps on the designated tractor. The bearing should be properly seated as specified in the service manual.

LEARNING ACTIVITIES

Learning activities are the "heart" of the module. The careful selection of these activities will greatly enhance the chances of successful student motivation and learning. So it is here that all of the thoughts and talents of the teacher as a professional are brought into play.

When the V-TECS catalogs are available, the performance guides will sometimes provide an adequate starting point for selecting learning activities appropriate for the performance objectives. However, performance guides are the major steps in the accomplishment of the task. They imply instructional content, but do not specify the most efficient, effective or motivational learning activities necessary for student learning. In other words, performance guides may come closer to specifying the major steps of the process or what is to be taught; they do not specify how to teach.

The activities selected by the teacher must:

1. be sufficiently comprehensive to provide all information necessary for the performance of the task or objective.
2. be concise enough to assure the elimination of irrelevant or extraneous material.
3. provide a variety of optional or alternative learning experiences, i.e., reading, practicing, joining a discussion group, solving problems, role playing, viewing or listening to audio visuals, joining a group for a lecture or field trip, etc.
4. provide alternative reading resources for the slow and fast learner.
5. provide self-check activities to allow the student to check on his/her progress toward final mastery.
6. be clearly stated.
7. be in an ordered sequence which directs the student through the various resources, media and laboratory experiences toward mastery of the task.
8. begin with the cognitive (understanding) type activities (reading, viewing, listening, etc.) and proceed to the psychomotor (skill) type activities.

EXAMPLE EXAMPLE

EXAMPLE OF LEARNING ACTIVITIES: (TRACTOR MECHANICS)

LEARNING ACTIVITIES:

1 READ *Fundamentals of Service: Engines* (John Deere Company), Chapter 2, pp. 30 – 43.
(or) _____

2 READ INSTRUCTIONS A, REMOVING AND CLEANING THE PISTON ASSEMBLY AND CYLINDERS; INSTRUCTIONS B, MEASURING THE PISTON RING END GAP AND PISTON RING LAND CLEARANCE; and INSTRUCTIONS C, REPLACING PISTON RINGS AND INSTALLING THE PISTON ASSEMBLY.
(or) _____

3 CHECK YOUR KNOWLEDGE of the piston assembly by doing Student Self-Check, SERVICING THE PISTON ASSEMBLY.

4 STUDY the section on servicing the piston assembly in the manufacturer's service manual for the designated tractor.
(or) _____

5 OBSERVE another student as he/she satisfactorily performs and is checked out on this module
(or) _____

6 PRACTICE removing, cleaning, measuring and replacing rings in the piston assembly and installing the piston assembly back into the tractor. Follow the procedure outlined in INSTRUCTIONS A.

7 ARRANGE with your instructor to complete this module by going through the CHECK-OUT ACTIVITIES listed on the back cover.

*Courtesy of Bureau of Vocational Education, State Department of Education and Department of Vocational Education, College of Education, University of Kentucky.

EXAMPLE OF LEARNING ACTIVITIES:

EXAMPLE EXAMPLE

(BOOKKEEPING)

1. Read Instruction Sheet I entitled "A Quick Review of How to Set up Tabular Materials." You may already know all of the information presented on this instruction sheet.

2. Read Instruction Sheet II entitled "Rough Draft and Proofreading Symbols." You will need to know these symbols in order to interpret what is meant on the rough copies you will be typing.

3. Student Self-Check I gives you an opportunity to put the information given in Instruction Sheets I and II to use by actually typing a business report from rough draft copy. This will not be graded.

4. Student Checklist I will allow you to evaluate your own paper once you have typed it and are satisfied with the results. By going over each item on the checklist, you will be able to tell whether your work is acceptable.

5. Student Self-Check II gives you another opportunity to type a tabular business report from rough draft copy. This Self-Check will not be graded.

6. The Checklist for Student Self-Check II will allow you to evaluate your own paper as you did in Learning Activity 4. You will determine for yourself whether your work is acceptable. If you believe that you need additional practice in typing tabulated materials, ask your instructor for suggestions. If you performed acceptably on the tabulated materials you typed, you should be ready to take the Post-Test.

7. Notify your instructor when you are ready to begin the Check-Out Activities. When you have completed the two problems in the Check-Out Activities, turn your work in to your instructor who will evaluate it for you.

SUGGESTIONS FOR LEARNING ACTIVITIES: [5]

The following section describes a number of kinds of learning activities that are suitable for use in individualized instructional modules. Some specific examples are also given. These suggestions are not meant to be all-inclusive, but are presented to stimulate the module writers' own creative thinking.

1. Readings from textbooks of short, relevant sections dealing specifically with the knowledge required to reach the objective. This may be a single reference or may be given as alternative references from different books.

2. Examination or data-gathering from standard reference books of the vocational field (e.g., Machinery Handbook, Graphic Standards, or Reference Manual for Office Personnel).

3. Completion of a section of a programmed text or other programmed material.

4. Reading of special materials available in the school library (e.g., books, encyclopedia articles, periodical articles from bound volumes, etc.).

5. Solving of practice problems in the skills component (computational problems, exercises, etc.).

[5] Ibid., *Handbook for Development of Vocational Education Modules*. pp. 31–34.

6. Viewing or listening to individualized audio or audio-visual materials (e.g., slide-tapes, audiotapes, filmstrips, illustrations, models, mock-ups).

7. Observing or operating models, mock-ups or dummy set-ups to gain understandings of mechanisms or operating controls (e.g., plastic mock PBX board, rotary engine, set-up of electrical circuit, practice key board).

8. Role-playing of performance in a simulated situation. Students may take the principal role of the practitioner or the participating role of the customer, the assistant, the audience, etc. These should be final learning activities.

9. Real-life performances, where the students function for short periods of time under controlled conditions in an actual work situation, or a situation very close to real (e.g., conducting a story-reading time at a child-care center, setting up equipment in a surveying team). These also should be final learning activities.

10. Observing the skilled vocational worker in a real work situation. This should be done with specific goals in mind, usually with some form of guide, observation instrument, or report form which will give structure and point to the observation period.

11. Videotaping of student performance, to be viewed and used by the student to evaluate and improve his performance.

12. Simulation experiences, where a student goes through a "dry run" of the performance with the conditions controlled and consequences minimized. "Case Studies" in which students write their reactions and responses to the given situation are also considered simulation experiences (e.g., working with dummy patient in health care; a model head in cosmetology; disassembling and assembling a non-functioning aircraft engine).

13. Small-group experiences, when students at closely related points of achievement can get together to discuss, plan, or evaluate their work (e.g., discuss results of observation, plan for role-playing sessions, evaluate the instructional value of their activities).

14. Instructor demonstration of an operation. There may be instructional situations in which the only solution is for the instructor to personally perform the operation and describe it as students observe. Usually this will need to be on an individual basis, but sometimes may be possible for small groups or even the total group.

15. Guest speakers or outside experts. These classroom experiences may be listed in an appropriate module and may be scheduled by the teacher at a time when many students are ready for the experience. Usually the nature of the topic is such that the whole group can benefit, even though they may not be at that exact point in their learning.

16. Production or construction of projects or services. These must directly contribute to the objective and, therefore, must be carefully designed and assigned, limited in scope, and require a specific amount of time (e.g., do a complete manicure on a fellow student; construct a W truss; make working drawings of a floating footing; make a skirt with zipper; decorate a cake with icing).

17. Problem-solving activities. Some objectives may require solving the problem involved in given situations. These may be relatively short experiences (e.g., prepare a luncheon menu for a particular group) or quite long-term jobs (e.g., design a vacation cottage for a family of four in a mountain setting). It is very important in problem-solving activities that the student is known to possess the requisite skills, that he/she has access to the information necessary to solve the problem, and that the problem not go beyond the performance objective.

18. Skills practice exercises. Some skilled operations may require that the student not only be able to perform them correctly once, but that he/she be able to do them smoothly and flawlessly every time. Learning activities may therefore specify practice periods in terms of time, number of repeated experiences, or quantity of production (e.g., make welds without a rod for two hours; produce ten perfect button holes, take dictation in shorthand).

19. Memorization. The performance objective may require or suggest that the student can best function if he/she has committed some information to memory. This is a legitimate learning activity (e.g., memorize the table of metric measures, memorize the Gregg characters, memorize the fomula for lathe speeds, memorize a list of technical terms).

20. Collecting activities. Some performance objectives may be reached by asking students to gather and collect real objects so as to become familiar with their characteristics, the variety available, the settings in which they may be found (e.g., make a collection of metal fasteners, building materials, local lawn weeds, children's street games, newspaper classified ads).

21. Scaled-down performance. If the real performance is large in physical size, complex because of the number of participants, or consumes a quantity of expensive materials, a limited performance or a scaled-down situation may give the student a better chance of gaining confidence or success and may be more instructionally efficient and practical. (Examples of scaled-down experiences are: teach an outdoor game to two children, construct a scale model of a built-up roof construction, lay out an irrigation system on a land contour model, build a corner of a block wall.)

22. Reading of the Instruction Sheets specifically prepared for the module. These will be concise statements of very relevant information that is geared to the student's level and available from no other convenient source.

23. Performing experiments in the laboratory. Assign the student specific experiments to perform with specified equipment and processes. Have him/her observe the results and report or utilize them in someway.

24. Writing of technical reports, reactions to case studies, reports for class discussion, etc. This activity may be particularly valuable in the technical areas.

25. Preparing visual materials. Gather information and produce diagrams, schematic drawings, charts, graphs, topographic maps, contour maps, graphic solutions, structural drawings, styling illustrations, layouts, design sketches. Activities of this type are usually interesting to students, add variety to the learning experience, and tend to reinforce learning.

26. Planning experiences. Performance objectives may require that the student learn how to plan the job or operation. Planning may include selecting or designing the job, developing a sequence of procedures, figuring materials and costs, noting checkpoints and safety cautions, devising evaluation standards.

27. Critique or evaluation experiences. In these, the student is asked to rate or evaluate an example of a finished product or service, or to make a critical analysis of a performance of a specified skill. The object of the evaluation may be a sample product, the work of a fellow student, the student's own work, a film or videotape of a performance. The final result may be a rating sheet, written report, or oral report.

28. Cooperative student experiences. Though instruction may be individualized there are situations when two or more students may work together in a learning experience. Many occupational tasks involve teamwork, and it is proper for the learning activities to incorporate this. Activities that involve heavy lifting, cooperative production techniques, worker interaction, or that usually require a team approach in the occupation are places where cooperative student experiences are applicable.

The following pages are taken from Child-Care Worker, Module 19. You are given the title, introduction, directions, objective and cover illustration. Write the six learning activities using the following hints.

HINTS:

A comprehensive textbook by Todd and Heffernan. *The Years Before School*, gives excellent background information for organizing and guiding outdoor play activities on pages 234 – 242. Baker and Fane's book, *Understanding and Guiding Young Children*, also contains practical information on pages 139 – 153.

A comprehensive filmstrip/tape presentation - "Guiding Outdoor Play Activities," is available.

Two Instruction Sheets are needed – assign appropriate titles to each. A Self-Check is needed on guidance techniques.

Upon completion, check the following pages for the learning activities for Module 19. Compare your responses to those given in Module 19.

CHILD-CARE WORKER

ORGANIZING AND GUIDING OUTDOOR PLAY ACTIVITIES

INTRODUCTION:

As a child-care worker you will be called upon to give outdoor play activities. In this module you will learn how to encourage both individual and group participation; provide individual attention; choose, arrange, improvise and evaluate play materials; use positive guidance techniques; and use safety procedures when guiding outdoor play activities.

DIRECTIONS:

Before you start to work on this module, be sure you have completed Module CW-18, "Planning Outdoor Play Activities."

If you have completed this module, read the objective. If you think that you are already able to perform this task, read the Check-Out Activity. Then, either arrange with your instructor about doing the Check-Out Activity,

or

If you need to complete learning activities in order to be able to do the task, go through the Learning Activities in the order given.

OBJECTIVE:

Given three groups of children at separate times and an outdoor play area, organize and guide one appropriate outdoor play activity for each group. Each activity must be organized and guided in accordance with the Instructor's Checklist, and each applicable item on the checklist must be fully accomplished.

*Courtesy of Bureau of Vocational Education, State Department of Education and Department of Vocational Education, College of Education, University of Kentucky.

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LEARNING ACTIVITIES:

1 READ one of the following references on supervising outdoor play activities: Todd and Heffernan, *The Years Before School*, pp. 234 – 242; or Baker and Fane, *Understanding and Guiding Young Children*, pp. 139 – 153.

(or) _____

2 VIEW the slide-tape presentation CW-19, "Guiding Outdoor Play Activities."

(or) _____

3 READ Instruction Sheet I, SUPERVISING OUTDOOR PLAY ACTIVITIES.

(or) _____

4 CHECK YOUR KNOWLEDGE on guidance techniques by completing Student Self-Check I, POSITIVE GUIDANCE TECHNIQUES.

5 READ Instruction Sheet II, GUIDING OUTDOOR PLAY ACTIVITIES.

6 ARRANGE with your instructor to complete this module by going through the Check-Out Activity.

*Courtesy of Bureau of Vocational Education, State Department of Education and Department of Vocational Education, College o Education, University of Kentucky.

SELF-CHECK III
Answer Key

As mentioned earlier, modules are self-contained, i.e., they include all of the procedure and information within the module itself. Learning Activity Packages simply refer the student to other sources of procedures or information. Sometimes, Learning Activity Packages are partially self-contained in that some procedures and some information is provided, but the student is also referred to other sources. When instructional content (procedures or information) is provided with the module, it usually takes the general form of:

1. a set of steps or procedures—usually an amplification of the performance guides.
2. information needed for decision making.
3. information needed to provide essential understanding (cognitive knowledge) (theory)
4. safety precautions

Fardig[6] suggested the following formats suitable for presenting content in modules:

Job sheet, or project sheet. This form of instruction sheet is designed to give instructions and specifications for doing a complete piece of work or a job. It may include detailed written directions, or a working drawing, or both.

Operation sheet. This is a sheet giving instruction in a single operation or process that requires some special knowledge or skill of the student. There may be several operations involved in any given job.

Information sheet. This is provided to furnish students with special information—special because it is very new, obscure, difficult to obtain, or necessary to have close at hand.

Assignment sheet. This may be a sheet of problems to be solved, questions to be answered, observations to be made, or tests to be performed.

Work sheet. This is a printed form to be filled in by the student in the process of gathering data, performing a job, or solving problems.

Instructional content to be included in the module should be written clearly and concisely. Most of such content will be written prescriptively or descriptively (cookbook style), since objectives are based on performance of a task. And again, the format will be based on the procedural guides from the V–TECS catalogs. Remember that the student will be expected to work with very little help from the instructor, so instructions must be easily understood. Keep the reading level low enough for the slow reader. Test the material with a few students before using it with the entire class, if feasible. Use sketches and illustrations generously. Above all, keep instructional content simple.

See the examples given on the following pages.

[6] Ibid., *Handbook for Development of Vocational Education Modules*, pp. 45–46.

EXAMPLE OF INSTRUCTIONAL CONTENT

EXAMPLES

Sales Invoices--What are They?

EXAMPLE

Sales invoices are itemized bills of sale for goods that have been ordered. They are usually typed on a prepared form and look similar to the one shown below.

I-O-U COMPANY (vendor's name)

123 N. Main St.
Akron, OH 44304

INVOICE NO. 4113

TO: Y-O-U Company (purchaser's name)
710 S. Main St.
Akron, OH 44300

DATE: June 12, 19--*
PURCHASE ORDER NO: 9240**
SHIPPED VIA: U.P.S.***

TERMS: n/30 (net due in 30 days)

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
Amount or number of items ordered	Identifies the items ordered	Lists the cost of each item	Lists the extension amount--quantity x unit price

*Use current date
**Obtain from purchase order
***How goods were sent (United Parcel Service)

EXAMPLES

Instruction Sheet I

SANITATION PROCEDURES

As you know, diseases can be passed from one person to another. When handling dishes and utensils in the food-service area of a child-care center, it is especially important that you practice good personal hygiene to protect the health of the children.

Always begin each day with a shower or bath and wear clean underclothes, uniform, and/or apron. When working in food service, wear a hairnet or cap to prevent hair from falling on the dishes, tables or food. Keep your fingernails clean and neatly cut. Never wear jewelry when serving or preparing food.

Do not prepare, handle or serve foods if you have boils, infected sores, cuts, burns, or diarrhea. Treat any cut or burn immediately. Cover it with a bandage or a band-aid to keep out dirt and germs. If it is on the hand or finger, wear a rubber glove. Cover your mouth with a handkerchief or tissue when coughing or sneezing. Report any illness to your supervisor.

Germs hate soap and hot water. Always wash your hands before beginning work, touching food, serving food, or touching clean dishes and utensils. Wash your hands after using the toilet, coughing, sneezing, blowing your nose, touching your face or hair, touching dirty dishes and utensils, handling raw foods or garbage. Never wash your hands in dishwater or over the sink where food is prepared. Use clean, individual towels and soap available at the hand-wash basins. Never wipe your hands on the dish towel. Carry the dish towel in your hands, never drape it over your shoulder. Dispose of any dish towels or cloths dropped on the floor.

EXAMPLES

Instruction Sheet II

SANITATION PRACTICES TO BE USED WHEN SETTING A TABLE

Wash and sanitize table tops before setting the table. This can be done by adding a sanitizer (chemicals such as household bleach) to the wash water and using hot water 170 degrees F (76.66 degrees C) or above. Always use a clean cloth that is used only for wiping and washing tables.

Everything that touches food may be a source of contamination. In order to prevent the spread of germs, the following rules should be observed when setting the table:

Never touch the parts of the dishes and utensils that will enter a person's mouth.

Hold glasses at the bottom, not near the rim.

Pick up cups and silverware by the handles.

Touch dishes only on surfaces that will not be in contact with food.

Never blow on the dishes or utensils to remove dust or crumbs.

Never stack glasses, cups, or dishes on top of each other.

Return to the dishwasher any iter that are dropped on the floor or that show signs of soil.

Discard cracked or chipped dishes, glasses, or cups as they are a breeding place for germs.

Use a clean tray to carry the dishes and utensils to the table to set it and to clear the dishes away when the meal is finished.

INSTRUCTIONS:

A. THE FIXED–RESISTANCE METHOD OF VOLTAGE REGULATOR ADJUSTMENT

In adjusting the voltage regulator using the fixed-resistance method, the following procedure should be used:

1. Consult the manufacturer's service manual for pertinent specifications and procedure.
2. Insert a one-fourth ohm fixed resistor into the charging circuit at the battery terminal.
3. Connect a voltmeter from the battery terminal to ground.
4. Cycle the generator by one or two methods:
   a. Slow it down until voltage drops to about one-fourth of rated value. Then increase speed and note the reading.
   b. Cycle the generator by inserting a variable resistance into the field circuit. Slowly increase resistance until voltage drops to about one-fourth of rated value. Decrease the resistance and note the voltage reading.

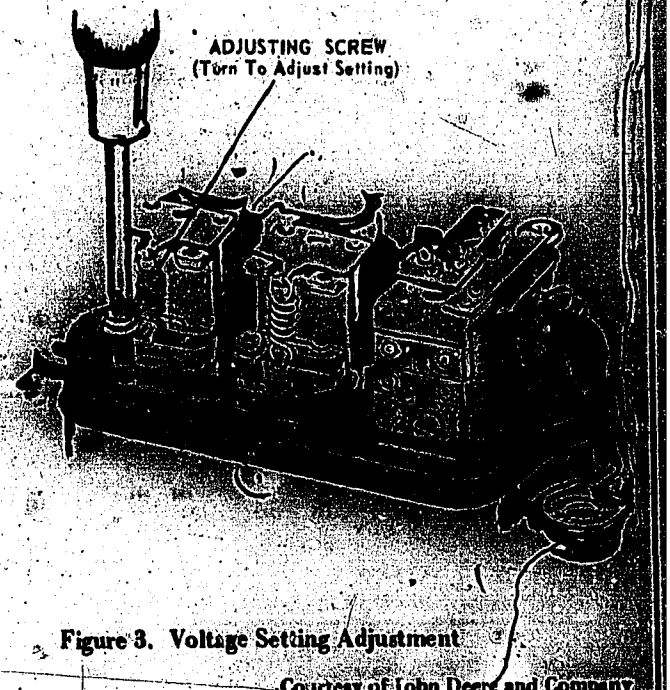


Figure 3. Voltage Setting Adjustment

Courtesy of John Deere and Company

5. Adjust the voltage setting by turning the adjusting screw. If the adjusting screw is turned to its limit, it may be necessary to bend the spring support. However, do this very carefully. Final adjustment should always be made by increasing the spring tension. If the setting is too high, adjust the unit below the specified value and then bring it back to this value by increasing the spring tension. After each adjustment and before taking a reading, replace the cover and cycle the generator.

EXAMPLE

Module CW-6

Instruction Sheet IV

EXAMPLE

ART ACTIVITIES FOR VARIOUS AGES

The child from 2 to 3 years of age –

Is in the manipulative or scribbling stage.

Uses large movements (puts whole body into using brushes and making wide movements).

Lacks organized design (enjoys seeing bright colors appear on the paper).

Experiments (likes to paint one color on top of another).

Has little interest in the finished product. (Send the pictures home the same day they are painted because the children sometimes forget what they painted that day since their sense of time is undeveloped.)

Has a short attention span. (Art activities should be kept short.)

Has limited eye-hand coordination. (Materials should be large such as large crayons and brushes.)

Has undeveloped small muscles.

Develops an increased awareness of touch and feel (likes to fingerpaint and play with clay).

Begins to color with crayons and draw simple figures.

The three-year-old: Wants to make things no matter how simple and crude efforts may be.

No longer chews on crayons or scribbles at random as much as at age two.

Begins to use clay and sand to construct objects, not merely to pat and pound or throw.

The child from 4 to 5 years of age –

Has ideas to express and works toward symbols to express them. (Now makes a sun with rays, a chimney with smoke.)

Moves from unrecognizable forms to recognizable ones. (You can really see that the child has drawn a dog without having to ask about it indirectly.)

Draws what is known, not what is seen.

Has a growing awareness of organization relationship (adds neck to head and body).

Names designs and they are recognizable.

Begins to have an interest in the product (likes to show off pictures). Admires own handwork greatly.

Increases attention span, but it is still short.

Has improved control of small muscles.

Has increased eye-hand coordination and more control with materials.

Is more familiar with materials.

Continues to touch and feel as important aspects of learning.

Is able to participate in small groups.

Seeks approval of his work.

Has increased interest as well as skills. Can cut, paste, and copy letters and numbers.

The emphasis at all ages should be placed on the satisfaction derived from choosing and using the art materials, not on the child's ability to copy or turn out a perfect finished product.

STUDENT SELF–CHECK

The Student Self-Check is a useful component of most modules because it provides a means of reinforcing the learning at intervals. It is especially helpful when the task to be achieved is complex and requires much cognitive knowledge (understanding). Students can easily become frustrated if self-checks are not used to give assurance. Most self-checks are of the cognitive type since the terminal (final task) in a performance-based program is nearly always of the psychomotor (skill) type.

Student Self-Checks are usually written in the form of a multiple-choice, matching, or completion type test. However, almost any type of test could be used, including essay or problem-solving types.

Correct responses should always be provided for the student. Such answers are often supplied upside down on the page to discourage the student from obtaining the answer without first trying to respond.

See examples of self-checks which follow:

EXAMPLE

EXAMPLE

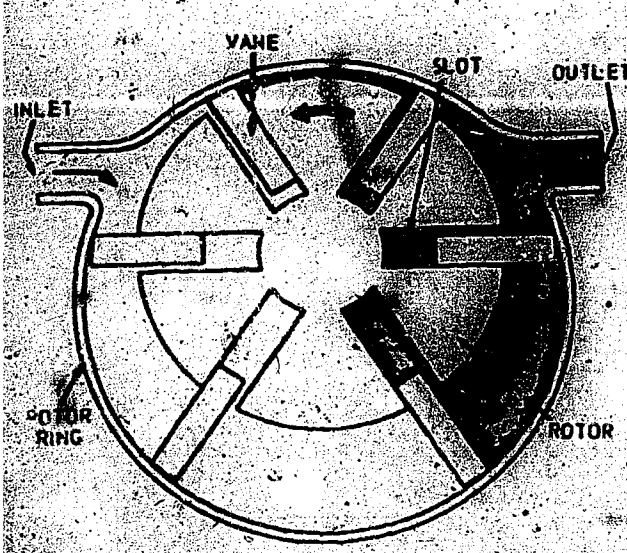
Student Self-Check I

UNDERSTANDING HYDRAULIC PUMPS (TRACTOR MECHANICS)

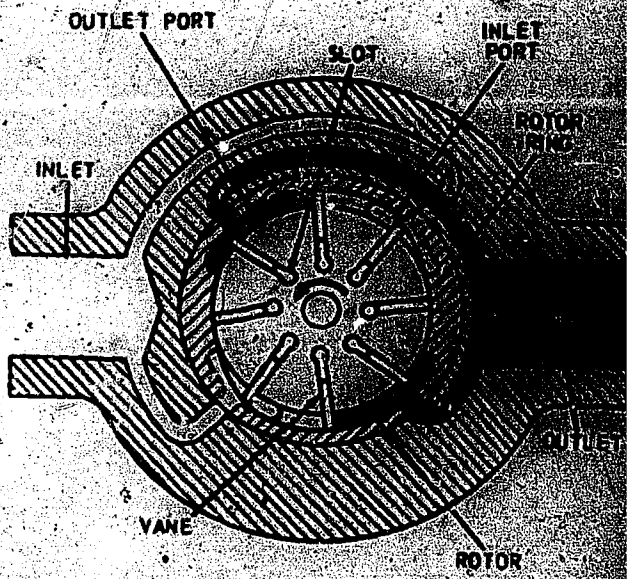
Answer the following:

1. Hydraulic pumps convert _____ force into _____ power.
2. A hydraulic pump creates flow, not pressure. (True or False)
3. Hydraulic pumps work on a principle called displacement. The two types of displacement are _____ and _____.
4. Which type of displacement is used in modern hydraulic pumps?

   Why?
5. The three types of hydraulic pumps are _____, _____ and _____.
6. What are the differences between an external gear pump and an internal gear pump?
7. Label the following sketches as to whether they are balanced or unbalanced vane pumps.



a. _____



b. _____

*Courtesy of Bureau of Vocational Education, State Department of Education and Department of Vocational Education, College of Education, University of Kentucky.

EXAMPLE

EXAMPLE

Student Self-Check I

(Continued)

8. If the pistons of a piston pump are mounted in lines parallel with the pump axle, it is a _____ piston pump.

9. If the pistons of a piston pump are set perpendicular to the pump's center, it is a _____ piston pump.

10. The swashplate in a piston pump can be stationary or movable. (True or False)

Compare your answers with the correct responses at the bottom of this page. Review any incorrect answers before going on to the next Learning Activity.

Correct Responses

1. Mechanical, hydraulic
2. True
3. Positive and non-positive
4. Positive, provides a full flow of fluid through the system by preventing feedback
5. Vane, gear, and piston
6. Internal pump has two gears—one positioned inside the other.
   External pump has two gears positioned in mesh with each other.
7. a. Unbalanced
   b. Balanced
8. Axial piston pump
9. Radial piston pump
10. True

EXAMPLE

Module CW-17

EXAMPLE

Student Self-Check II

CARING FOR PETS AND PLANTS
(Child-Care)

True–False Questions

Directions: Place a "T" in the blanks to the left of the questions you consider to be true and an "F" in the blanks to the left of the questions you consider to be false. Then compare your answers with those at the bottom of the page.

_____ 1. Canaries are excellent pets for children to handle.

_____ 2. Canaries should be kept where temperatures are below 60 degrees F. (15.6 degrees C)

_____ 3. A chameleon is a kind of bird.

_____ 4. Fish should be kept in a terrarium.

_____ 5. A balanced aquarium has the correct number of fish and the correct number of plants to use the oxygen and carbon dioxide produced.

_____ 6. Meal worms can be grown at home by placing layers of oatmeal separated by layers of burlap in a glass container.

_____ 7. If the upper fin is down flat on the fish's back, it may be sick.

_____ 8. A sick fish should be taken out of the tank and put into water which has had 1/2 of an aspirin dissolved in it.

_____ 9. Green water and scum on the glass means there are too many fish and/or too much food in the tank.

_____ 10. Fish should be fed a little raw meat every two weeks.

_____ 11. Guinea pig cages should have paper liners in the bottom that can be changed daily.

_____ 12. Frogs should be kept in a terrarium where there is both land and water.

_____ 13. Turtles should be put in fish tanks with fish.

_____ 14. Rabbit pellets mixed with water make a balanced diet for guinea pigs.

_____ 15. Most plants need watering twice a week.

Answers:

1. False
2. False
3. False
4. False
5. True
6. True
7. True
8. True
9. False
10. True
11. True
12. True
13. False
14. True
15. True

SECTION IX

CHECK–OUT ACTIVITIES

The check-out activities are the criterion-referenced measures, which are listed in the OBJECTIVE section. Performance-based education requires that the evaluation be based on criterion-referenced measures. Therefore, the final test must be a criterion-referenced measure. These measures may be taken from a V-TECS Catalog, if appropriate, or prepared in accordance with the concept given in Module 2.

A brief set of directions are provided which tells the student what instruments or procedures will be used to rate his/her performance (usually this is an Instructor's Final Checklist). The student should be told how he/she will be evaluated and redirected to the OBJECTIVE section.

The relationship between the performance objective, the criterion-referenced measure, the instructor's final checklist and the check-out activities is undoubtedly confusing. In simpler terms, the check-out activities are the criterion-referenced measures and the criterion-referenced measures are sometimes the same as the performance objectives, but often need to be more explicitly stated, especially the performance standards component of the objectives. And this is where the instructor's final checklist fits in. It provides a more detailed step-by-step (or process) evaluation of the task performance.

The instructor may need to be present to observe some of the more critical steps of the check-out activities. Such steps must be identified and labeled (usually with an asterisk) on the instructor's final checklist so that the student can notify the instructor that his/her help is needed.

See how these are labeled on the Instructor's Final Checklist shown on page 29.

EXAMPLE OF CHECK-OUT ACTIVITY STATEMENT

EXAMPLE EXAMPLE

Check-Out Activity

The statement below explains the activities you must be able to complete in order to finish this module. As you go through each activity, your instructor will rate your performance using the Instructor's Final Checklist, SHARPENING TWIST DRILLS AND AUGER BITS.

Go to the tool room and draw a grinding gauge, a half-round file, an auger bit file, a dull twist drill bit and a dull auger bit. Then inform your instructor that you are ready to be tested; he/she will assign you to a grinder. Sharpen the bits according to the specifications listed in the Instructor's Final Checklist, page 14. When you are satisfied that you have completed the task properly, take the bits (and the grinding gauge) to your instructor to be graded.

SECTION X

INSTRUCTOR'S FINAL CHECKLIST

The Instructor's Final Checklist is a necessary part of each module. It allows the instructor to evaluate each stage of the performance (sometimes called process evaluation) as well as the final product (sometimes called product evaluation). Both types of evaluation are usually meaningful. It is usually not enough to evaluate only the final product, e.g., if a student presents a painted car door to the instructor after it is painted, the instructor can only evaluate the final product or how well the paint job appears to have been done. If process evaluation is used, the instructor might have evaluated performance at each stage, e.g, at the primer stage after the first coat, etc.

The checklist can usually be taken directly from the performance guide section of the V–TECS catalog. This is true because usually the performance guides are a listing of the major performance steps and each step makes a logical checkpoint.

The format of the checklist should include directions and four column chart. Columns to be checked usually include four categories: 1) Not Applicable, 2) Not Accomplished, 3) Partially Accomplished, and 4) Fully Accomplished. The title should always be the same as that of the module itself. Items listed on the checklist should be written in the past tense, e.g., installed the spark plug. The final determination is either accomplished or not accomplished. Entries 2 and 3 are used for advising the student on remedial learning activities prior to attempting the criterion-referenced measure again. If the student can not accomplish the objective, then the sheet is maintained in the instructor's file. If all points are N/A or accomplished, then the fact is recorded on the student's Record Card and Wall Chart.

As mentioned in the preceding section, some items in the Instructor's Final Checklist will require the presence of the instructor at critical points to observe student performance. These points will be labeled with an asterisk.

See Module 6 for a more detailed discussion of the Instructor's Final Checklist.

See the example given on page 29.

EXAMPLE OF INSTRUCTOR'S FINAL CHECKLIST

EXAMPLE EXAMPLE

LAP

Student _____

Date _____

SHARPENING TWIST DRILLS AND AUGER BITS

Instructor's Final Checklist

Check the student's performance in the following elements of sharpening twist drills and auger bits.

Place an X in the appropriate box indicating not accomplished, partially accomplished, or fully accomplished. If, because of special circumstances, the item was impossible to complete, place an X in the "Not Applicable" box.

Performance Level: All items must receive a rating of FULLY ACCOMPLISHED (or Not Applicable). If any items are rated Not Accomplished or Partially Accomplished, the student and instructor will discuss this and decide which learning activities must be repeated.

	Student Performance			
	Not Applicable	Not Accomplished	Partially Accomplished	Fully Accomplished
1. In the process of sharpening twist drills, the student:				
a. Followed all safety precautions for the grinder.	[ ]	[ ]	[ ]	[ ]
b. Ground the cutting lips of the twist drill to form an angle of 118° (± 3°)	[ ]	[ ]	[ ]	[ ]
c. Obtained a clearance angle on drill bit that was 12° (± 3°)	[ ]	[ ]	[ ]	[ ]
d. Produced a twist drill that did not show evidence of overheating	[ ]	[ ]	[ ]	[ ]
2. In the process of sharpening auger bits, the student:				
a. Filed the lip clearance angle to 10° - 15°.	[ ]	[ ]	[ ]	[ ]
b. Filed the cutting angle to 45° (± 3°)	[ ]	[ ]	[ ]	[ ]

*Notify your instructor at this point.

*Courtesy of Bureau of Vocational Education, State Department of Education and Department of Vocational Education, College of Education, University of Kentucky.

SELF-CHECK IV
PREPARING THE INSTRUCTOR'S FINAL CHECKLIST

Below is a performance guide from the Auto Parts Clerk Catalog. It is taken from the duty area entitled, "Performing Housekeeping Duties." The task is shown below. Use this information to create an acceptable Instructor's Checklist. Upon completion, compare your checklist with the Answer Key.

Duty: PERFORMING HOUSEKEEPING DUTIES

Task: Dust, Clean, Sweep

10. Performance Objective

Given the necessary custodial supplies and equipment, perform the housekeeping and custodial tasks required for the store. Performance will be rated acceptable when all items on the checklist have been rated acceptable. (1)

Criterion-Referenced Measure

Select the proper cleaning utensils and supplies and perform the required housekeeping and custodial tasks.

Performance Guide

1. Select appropriate cleaning utensils and supplies.
2. Dust counter, shelves, bins, and displays.
3. Straighten under counter shelves.
4. Sweep floors.
5. Remove grease and oil spots from counter, floor, doors and windows.
6. Dispose of all trash and debris.
7. Replace cleaning utensils.

LAP

Student _____

Date _____

Instructor's Final Checklist *

Check the student's performance in the following elements of

Dusting, Cleaning, Sweeping

Place an X in the appropriate box indicating not accomplished, partially accomplished, or fully accomplished. If, because of special circumstances, the item was impossible to complete, place an X in the "Not Applicable" box.

Performance Level: All items must receive a rating of FULLY ACCOMPLISHED (or Not Applicable). If any items are rated Not Accomplished or Partially Accomplished, the student and instructor will discuss this and decide which learning activities must be repeated.

		Student Performance			
	ACTIVITY	Not Applicable	Not Accomplished	Partially Accomplished	Fully Accomplished
1.	Selected appropriate cleaning utensils and supplies for the task.	[ ]	[ ]	[ ]	[ ]
2.	Dusted counter, shelves, bins, and displays.	[ ]	[ ]	[ ]	[ ]
3.	Straightened under-counter shelves.	[ ]	[ ]	[ ]	[ ]
4.	Swept floors.	[ ]	[ ]	[ ]	[ ]
5.	Removed grease and oil spots from counter, floor, doors and windows.	[ ]	[ ]	[ ]	[ ]
6.	Disposed of all trash and debris.	[ ]	[ ]	[ ]	[ ]
7.	Replaced cleaning utensils and supplies.	[ ]	[ ]	[ ]	[ ]

*Courtesy of Bureau of Vocational Education, State Department of Education and Department of Vocational Education, College of Education, University of Kentucky.

ANSWER KEY – SELF-CHECK IV Preparing the Instructor's Final Checklist

CHECK-OUT ACTIVITIES

Inform your instructor that you are ready to be tested. You will be provided with a copy of a multiple choice test and an answer sheet. Record your answers on the answer sheet and return both the test and the answer sheet to the instructor.